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North Korea: New Weapons for the Mechanized Forces

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An Intelligence Assessment

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September 1984

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An Intelligence Assessment

This paper was prepared by
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North Korea: New Weapons for the Mechanized Forces

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Overview

Information available as of 31 July 1984 was used in this report.

Since 1973, North Korea's program to modernize its ground forces has emphasized increased firepower and improved off-road mobility. Armored vehicles are being produced at a high rate as tanks, armored personnel carriers, and self-propelled artillery pieces continue to be fielded. It was not until the 1980s, however, that we recognized how wide ranging were the North's efforts to upgrade its arsenal of self-propelled weapons for its mechanized forces.

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P'yongyang now is pushing to develop more capable, mobile weapons, particularly those designed to improve antiair and antitank protection:

- A self-propelled, radar-controlled antiaircraft gun system now being produced could threaten South Korean helicopters, most of which are lightly armored.

- Several tracked vehicles that mount antiarmor weapons reportedly are in use. One appears to be armed with multiple AT-3 missiles that have an antitank range beyond that of most South Korean tank guns. Another system, probably still being tested, may be armed with a more advanced antitank missile.

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P'yongyang also is emphasizing mobility for the rockets and mortars that provide limited-range fire support for its infantry regiments. A tracked multiple rocket launcher is replacing towed versions in large numbers, and a self-propelled mortar reportedly is being fielded.

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P'yongyang is developing mobile weapons for its ground forces with little assistance from the USSR. Nearly all components in these new vehicles are produced in North Korea. The use of domestically produced parts and the manner in which most mobile weapon systems are fabricated show a high degree of North Korean design independence and ingenuity. For example, North Korea mated a naval radar and a medium-tank chassis to produce its newest, self-propelled antiaircraft gun.

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The new mobile weapons, although equating to early 1960s technology for the most part, will increase North Korea's combat edge over the South. The South's forces also are equipped largely with dated weaponry, and the North has an overall advantage in ground force capabilities—a larger army, more firepower, and far greater mobility.

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North Korea's Efforts To Mechanize

For over 10 years, North Korea has relied exclusively on domestic production to supply the armored vehicles to form mechanized infantry units and expand its tank force to modernize the Army and improve offensive capabilities.

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In 1973, an extensively modified and improved version of the Chinese Type-63 armored personnel carrier entered production. It was soon followed by domestically manufactured copies of the Soviet T-55 medium tank and several varieties of indigenously designed self-propelled artillery. Tracked vehicles with antiaircraft machineguns began replacing towed antiaircraft weapons in the mechanized forces in 1975. By 1978, mechanization was in full swing and a copy of the T-62 tank was in production.

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North Korea introduced other tracked weapon systems as well, but not until the 1980s did we begin to see the scale of its effort to develop a full range of mechanized weapon systems.

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have given us a more comprehensive understanding. As a result, it now is apparent that P'yongyang is fielding or testing a variety of new self-propelled weapons designed to provide antiair and antitank protection, as well as fire support for its mobile infantry forces.

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Air Defense Weapons

To fill one of its most critical gaps in capabilities—the lack of effective battlefield air defense—North Korea has designed and manufactured a variety of self-propelled antiaircraft gun systems . One is radar controlled

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it has been compared with the widely used Soviet ZSU-23/4,

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- The radar is not the same as that used on the Soviet system. 25X1 we can identify it as the North Korean–produced variant of the Drum Tilt—a radar normally used with twin-barrel 30-mm guns on small naval craft.

- 25X1 the use of the Drum Tilt indicate that the North Koreans may be using 30-mm guns rather than 23-mm guns. If so, the North Korean weapon may have a tactical antiaircraft range of 2,000 to 3,000 meters, comparable to that of the Soviet ZSU-23/4.

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We presume that the North uses a tank chassis as the base vehicle because the only other tracked chassis made in North Korea—an APC and a modified artillery tractor—are too light.

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The primary purpose of this weapon is low-altitude air defense. Helicopters are probably the priority targets.

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Helicopters with US TOW missiles—South Korea has over 50 in its arsenal—would have a slight range advantage over the antiaircraft weapon. Nonetheless, the rapid fire guns on the North Korean vehicles

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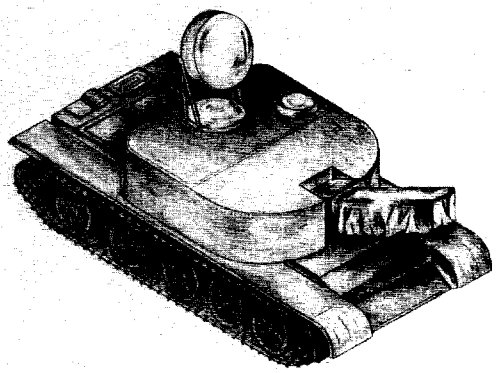
Figure 1
Self-Propelled Antiaircraft Gun Systems

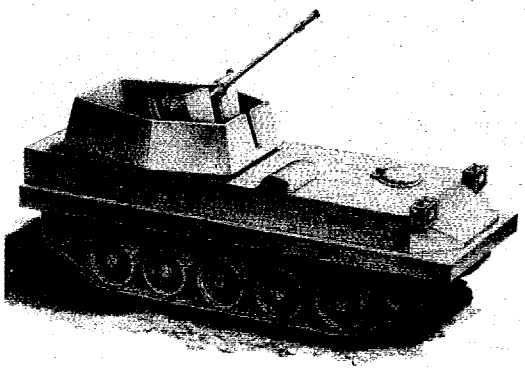
Gun type and caliber (estimated)	Fire control	Tactical anticraft range (estimated)	Status, mid-1984
Twin 30-mm turret mounted	Drum tilt radar	2,000-3,000 meters	Beginning production
Single 37-mm	Optical	2,500 meters	Limited number deployed

North Korean radar-controlled gun



Soviet ZSU-23/4

North Korean 37-mm AAA gun mounted on artillery tractor



Soviet SU-37 AAA gun

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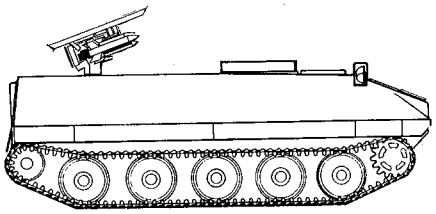
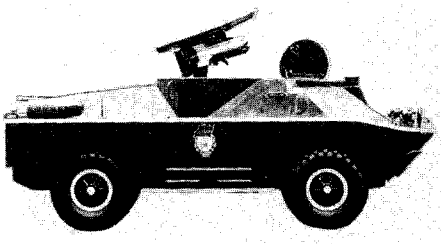
Figure 2
Comparison of North Korean and Soviet Self-Propelled Antitank Missile Systems

North Korean AT-3 Sagger mounted on APC



Soviet AT-3 Sagger mounted on BRDM-2



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could significantly threaten lightly armored helicopters that would use shorter range weapons such as guns and antiarmor grenade launchers. We expect the radar-controlled guns to augment or replace some of the 500 or so machinegun systems without radar that are now deployed with the armored and mechanized forces

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. This is similar to a now obsolete Soviet system.

This weapon's slow rate of fire and manual tracking capability would limit its use as a mobile battlefield weapon, but, from fixed, defensive positions, it could provide fairly effective fire against low-flying helicopters.

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Antiarmor Weapons

We believe that in the 1970s the Soviets provided North Korea with the technological assistance necessary to manufacture antitank missiles.

[1] The principal weapon that now provides mobile antiaircraft fire consists of a four-barrel 14.5-mm machinegun mounted in an open compartment at the rear of the North Korean–designed armored personnel carrier. The light caliber, manual control, and optical sights of this self-propelled machinegun limit its effectiveness against aircraft in a battlefield situation.

North Korea is mounting these and other weapons on domestically produced tracked vehicles to improve the antiarmor capability of its mechanized forces.

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a company of APCs armed with multiple antitank missile launchers replaced towed antitank guns in each of the division's infantry regiments.

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the nine Korean-designed APCs in a company were each armed with seven launchers, and

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correlates fairly well with the six-launcher AT-3 Sagger system mounted on the Soviet BRDM-2 reconnaissance vehicle (see figure 2).

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confirm the existence of armored vehicle units in the regiments

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—Saggers mounted on APC chassis give the mechanized forces a mobile antitank weapon with a missile range of 3,000 meters, a range beyond the effective firing limits of the 90-mm guns on most South Korean tanks. But, if this new weapon is armed with the early version of the

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Figure 3
North Korean Recoilless Gun Mounted on APC Chassis

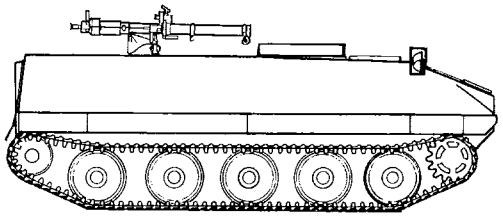

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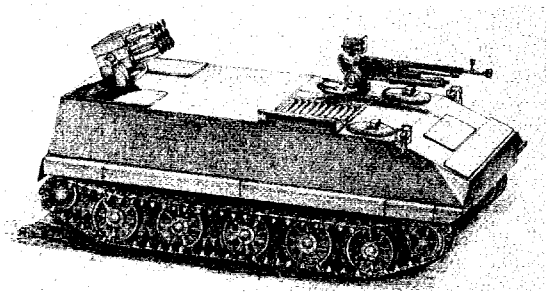
Figure 4
North Korean Rocket Launcher Mounted on APC Chassis



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Sagger, it must stop for at least 30 seconds to acquire a target and guide the missile to impact, making it an inviting target for enemy tank guns and antiarmor missiles. TOW missiles in South Korea's ground forces have a range advantage, but they are mounted on trucks, not tracked armored vehicles.

Both the AT-3 and the older AT-1 antitank missiles known to be in the North Korean inventory are rail launched, but later Soviet missile systems like the AT-4 Spigot are tube launched and have better accuracy.

the 1st Division was to receive APCs, each armed with two 82-mm recoilless guns. The weapons reportedly were mounted in the open on top of the vehicle (see figure 3).

three of these vehicles would operate with the APCs armed with AT-3 Saggers in each infantry regiment. The 82-mm gun probably is a Korean-made copy of the old Soviet B-10, a recoilless gun with a limited antitank capability at a maximum range of 400 meters.

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Infantry Fire-Support Weapons

P'yongyang also is providing its mechanized infantry regiments with self-propelled fire-support weapons.

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Nine of these weapons provide barrage fire out to 8,300 meters for each infantry regiment.

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120-mm and 82-mm mortars are being mounted on APCs. Regimental 120-mm mortars probably are mounted in the

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APC chassis, but it is probable that the 82-mm mortars and crews of the infantry battalion simply are transported in APCs.

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Production

Nearly all components used in the armored vehicles described above are produced in North Korea

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The T-62 tank chassis, used as the vehicle for the radar-controlled antiaircraft gun system, has been in production we believe that several hundred T-62s have been manufactured.

North Korea probably produces both the 23-mm and 30-mm gun—either of which could be the weapon used on the vehicle.

Almost 3,000 chassis used for the Korean-designed APC and several varieties of self-propelled weapons have been manufactured This versatile chassis is now being used for the standard APC, the self-propelled antiaircraft machineguns, antitank weapons, multiple rocket launchers, mortars, and one type of artillery cannon. All of the weapons mounted on this chassis, including the Sagger antitank missile, are produced in North Korea.[2]

[2] South Korea, for its part, does not manufacture tracked vehicles for its military forces, but Seoul is expected to begin coproducing an advanced tank and one type of self-propelled cannon in the latter half of this decade. Domestic production of other types of tracked weapons in South Korea, however, will lag the North's impressive capability to turn out a wide variety of off-road vehicles.

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The integration of components used in the tracked weapons strongly suggests that the USSR has supplied North Korea little assistance in the development of modern, mobile arms. It appears that Moscow limits the technology it supplies. The Soviets aided North Korea in establishing tank production in the 1970s and probably assisted in the development of antitank missiles. The North, however, has had to fabricate its own radar-controlled gun system and still lacks a mobile antiaircraft missile, although the Soviets have exported such weapons to countries in the Middle East for years. China is not capable of supplying much up-to-date technology in most areas of ground force weaponry.

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Implications

Most of North Korea's new mobile weapon systems equate to early 1960s technology and offer only a limited threat to a force using advanced tactics, weapons, and electronic equipment like those available to US forces in the Pacific theater. Unless the Soviets change their policy on providing modern weapons, P'yongyang probably will be forced to continue to develop new equipment largely on its own; advances in technology will be slow.

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The North's new weapons probably would be fairly effective in combat against the South, however, which lacks electronic countermeasures, uses lightly armored helicopters, and has a large number of dated armor and antiarmor weapons. Moreover, the North's ground forces have a substantial edge in capabilities over those of the South—a larger army, more firepower, and far greater mobility. The continuing development and deployment of self-propelled weapons will strengthen the North's advantage in mobile forces.

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